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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,063	01/05/2005	Robert Hammond-Smith	MERCK-2962	5126

23599 7590 11/30/2006

MILLEN, WHITE, ZELANO & BRANIGAN, P.C. .  
2200 CLARENDON BLVD.  
SUITE 1400  
ARLINGTON, VA 22201

EXAMINER
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WU, SHEAN CHIU

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/520,063

Applicant(s)

HAMMOND-SMITH ET AL.

Examiner

Shean C. Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/5/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. Claim 13 provides for the use of flakes, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

2. Claim 13 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1172201.

The reference discloses that liquid crystal polymer flakes are dispersed in the elastomers. The liquid crystal polymers in the reference do not have a chiral group. The

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method of making the flakes is disclosed in sections [0078] and [0082]. Also, see sections [0103]-[0108] to describe the liquid crystal polymer flakes. The reference anticipates the claimed invention.

5. Claim 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Potesch et al. (US 6,291,065).

The reference discloses pigment flakes having a chiral liquid crystalline polymer material, the polymer material serving as a carrier material or being coated onto a carrier material. The reference further discloses the methods of making such pigment flakes and using them in paints, printing inks, optical elements and security applications (col. 1, lines 9-12 and col. 8, lines 36-44). The chiral polymerizable mesogenic material comprises at least one chiral polymerizable mesogenic compound and at least one achiral polymerizable mesogenic compound (col. 3, lines 40-43, the reference claims 11-12 and 15). The above disclosure anticipates the present claims 1, 3, 7, 9, 12-13 and 15-16.

With respect to claim 2, the liquid crystal material is a nematic or smectic phase (see col. 2, lines 28-34).

With respect to claims 5 and 6, polymer pigment flakes are coated into the thin film onto a substrate and aligning the material to achieve uniform orientation of the helical axis normal to the surface of the substrate (see col. 4, lines 41-51).

With respect to claim 8, the pigment flake has thickness from 0.1 to 100  $\mu\text{m}$  and lateral dimensions from 1 to 1000  $\mu\text{m}$  (see col. 2, lines 63 and 64).

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With respect to claim 10, the reference teaches that for the use in inks and paints, the cholesteric pigment flakes can be dispersed in a transparent binder or fluid, or incorporated into plastics, depending on the application (see col. 8, lines 31-35).

With respect to claim 11, the reference discloses pigment flakes additionally comprising one or more dyes or pigments which are not chemically bound to the liquid crystalline polymer material (see col. 2, lines 58-60).

With respect to claim 14, the reference liquid crystals with chiral mesophase show extraordinary color effects, like for example a high color saturation, a wide color range and iridescent appearance, due to their property of reflecting selected wavelengths of incident light (see col. 1, lines 13-19).

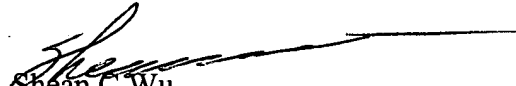
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Shean C Wu  
Primary Examiner  
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SCW